

REMARKS

Favorable consideration of this Application as presently amended and in light of the following discussion is respectfully requested.

After entry of the foregoing Amendment, Claims 1-35 are pending in the present Application. Claims 1, 3, 5, 6, 9-11, 14-20, 22-35 have been amended to address cosmetic matters of form. Likewise, the specification has been amended to correct typographical errors. No new matter has been added.

By way of summary, the Official Action presents the following issues: Claims 1-35 stand rejected under 35 U.S.C. § 102 as being anticipated by Bar et al. (U.S. Patent Publication No. 2004/0235495, hereinafter Bar).

REJECTION UNDER 35 U.S.C. § 102

The outstanding Official Action has rejected Claims 1-35 under 35 U.S.C. § 102 as being anticipated by Bar. The Official Action contends that Bar discloses all of the Applicants' claim limitations. Applicants respectfully traverse the rejection.

By way of background, ranging and positioning systems are known in which the distance between system components is determined based upon a radio wave. In such systems, ranging is usually accomplished by measuring the time taken from packet transmission to packet reception of a transmitting/receiving component. However, keeping the transmission and reception time fixed is inconvenience from the perspective of the system in which processing varies depending on the length and type of packets. Likewise, adding special information for ranging to packets is not desirable in view of the effective use of bandwidth.¹

¹ Application at pages 1-4.

In light of at least the above deficiencies in the art, the present invention is provided. With at least the above object in mind, a brief comparison of the claimed invention in view of the cited reference is believed to be in order.

Applicants' amended Claim 1 recites, *inter alia*, a ranging and positioning system, including:

. . . a sending radio set configured to transmit packets;
a receiving radio set configured to receive the packets and then send the packets back to the sending radio set after a certain length of time corresponding to an integral multiple of a prescribed unit time, wherein the sending radio set calculates the time required for the packets to be transmitted to, and, return and from the receiving radio set by subtracting the integral multiple of a prescribed unit time from the time taken from transmission of packets to reception of packets, thereby determining the distance between the sending and receiving radio sets according to the time required for the packets to be transmitted and return.

Bar describes a system and associated method for determining the position of a user appliance in a radio communication system. The system is configured of a plurality of radio cells (CE1), each of which is supported by a corresponding base station (NB1).² Within cell (CE1), a mobile radio device (UE1) may establish a radio link with a base station in the usual manner. In order to be able to determine the position, or location, of the mobile radio device (UE1), present in the radio cell (CE1) at a given time, position elements (PE11-PE14) are arranged and distributed in the radio cell (CE1).³ The positional elements are placed in external boundaries of the radio cell (CE1).

In operation, the Bar system determines the position of mobile radio devices (UE1) by transmitting one or more locating measuring signals from the base station (NB1). The transmitted measuring signals determine a distance circle (RTK1) around the base station (NB1). In order to further delimit the location of the mobile radio device (UE1), one or more

² Bar at Fig. 2; paragraph 19.

³ Bar at paragraph 19.

locating measuring signals are transmitted simultaneously, or each offset chronologically by a known time period, by at least two further position elements, such as, for example, (PE1) and (PE3). In this way, at least two further distance circles (CI1) and (CI3) are determined using corresponding transit time measurements of these locating measuring signals.⁴

Conversely, in an exemplary embodiment of the Applicants' invention, a ranging and positioning system is provided in which a distance between two radio sets is measured. A sending radio set is configured to transmit packets and a receiving radio set is configured to receive the packets and send the packets back to the sending radio set after a certain length of time. The length of time corresponds to an integral multiple of a prescribed unit time. In this manner, the sending radio set calculates a time required for packets to be transmitted and returned back from the receiving radio set by subtracting the integral multiple of the prescribed unit time from the time taken from transmitting to reception of the packets. The distance between the sending and receiving radio sets is determined according to the time required for packets to be transmitted and returned from their point of origination.⁵ As Bar does not disclose or suggest calculating the time required for packet transmission to reception by subtracting an integral multiple over prescribed unit time, Applicants respectfully submit that amended Claim 1, and any claim depending therefrom, is allowable over the cited reference. Likewise, as independent Claims 11 and 20 recite substantially similar limitations to that discussed above, Applicants submit that these claims, and any claims depending therefrom, are also allowable over the cited reference.

Accordingly, Applicants respectfully request that the rejection of Claims 1-35 under 35 U.S.C. § 102 be withdrawn.

⁴ Bar at paragraph 20.

⁵ Application at Figs. 4-5.

CONCLUSION

As Applicants have not substantively amended the claims in response to any rejection of record, should a further rejection be applied in the next Action based upon newly cited prior art, Applicants submit that such an action **cannot properly be considered a Final Office Action.**

Consequently, in view of the foregoing amendment and remarks, it is respectfully submitted that the present Application, including Claims 1-35, is patently distinguished over the prior art, in condition for allowance, and such action is respectfully requested at an early date.

Respectfully submitted,

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